



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--|------------------------|
| 10/564,574 | 09/11/2006 | Wojciech Piasiecki | PL-CRC/03/05 | 3321 |
| 7590 04/25/2008 | | | | |
| Michael M Rickin Abb Inc Legal Department 4U6 29801 Euclid Avenue Wickliffe, OH 44092-1832 | | | EXAMINER WILLOUGHBY, TERRENCE RONIQUE | |
| | | | ART UNIT 2836 | PAPER NUMBER |
| | | | MAIL DATE 04/25/2008 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,574

Applicant(s)

PIASECKI ET AL.

Examiner

TERRENCE R. WILLOUGHBY

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 9-14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/13/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's amendment filed on 2/1/2008 has been entered. Accordingly Claims 1-5 have been amended and no Claims were cancelled. New Claims 6-14 were added. Thus, Claims 1-14 remain pending in the present application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiser et al. (DE 1265836) in view of Clark (US 3,569,673).

4. Regarding claims 1 and 8, Peiser et al. in (Fig. 1) discloses a protecting system for three single phase transformers having three auxiliary secondary windings that are connected to form an open delta configuration the protection system comprising:

an attenuating resistor (R) connected into the open-delta configuration of three auxiliary second windings (wr3, ws3, wt3) of the three single-phase transformers (Wr, Ws, Wt), which is deactivated by at least one of the protective switching devices (rr, rs, rt) when a relaxation oscillations occurs to prevent thermal destruction of the voltage transformers and attenuating resistor (R). The protective switching devices (rr, rs, rt) are

Art Unit: 2836

connected in series between the output (U) of the auxiliary secondary winding (wr3, ws3, wt3) and one of the single-phase transformers (Wr, Ws, Wt) and the attenuating resistor (R). Pages 6-8.

Peiser et al. does not disclose that either one of the protective switching devices (rr, rs, rt) is a thermal fuse and is connected in series with an element with a threshold voltage and current characteristic.

However, Clark in (Fig. 1), discloses a switching device comprising a thermal fuse (28) and is connected in series with an element with a threshold and current characteristic (51, 54) at the secondary winding (46) of a transformer. (col. 3, ll. 42-45 and ll. 54-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protective switching device of Peiser et al. with the thermal fuse connected in series with an element with a threshold voltage and current characteristic as taught by Clark to protect the transformer core from becoming saturated so that amount of magnetization remains directly related to the resistance of the thermistor caused by temperature change (Clark, col. 4, ll. 20-40).

5. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiser et al. (DE 1265836) in view of Clark (US 3,569,673) as applied to claims 1 and 8 above, and further in view of Streater (US 3,467,903).
6. Regarding claim 2, Peiser et al. in view of Clark discloses the protecting system of claim 1, except for wherein the thermal fuse comprises a bimetallic circuit breaker,

and the element with a threshold voltage and characteristic comprises two zener diodes push-pull connected with one another.

However, Streater in (Fig. 9) discloses a thermal fuse in the form of a bimetallic circuit breaker (69), and a element with a threshold voltage and characteristic having the form of two zener diodes (72,73) configured in a push-pull connection with one another.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the bimetallic circuit breaker and the two zener diodes configured in a push-pull configuration as taught by Streater in the protective system device of Peiser et al. and Clark to provide a much simpler and reliable thermal protective circuit.

7. Regarding claim 3, Peiser et al. in view of Clark and in view of Streater discloses the system of claim 1, wherein the thermal fuse (Streater, Fig. 10, 79) comprises a PTC resistor (Streater, Fig. 10, 81), and the element with a threshold voltage and current comprises two zener-diodes (Streater, Fig. 9, 72, 73) in a push-pull connection with one another.

8. Regarding claim 4, Peiser et al. in view of Clark and in view of Streater discloses the system of claim 1, wherein the thermal fuse is a PTC resistor (Streater, Fig. 10, 81), and the element with a threshold voltage and current comprises a varistor (Streater, , Fig. 9, 71).

9. Regarding claim 5, Peiser et al. in view of Clark and in view of Streater discloses the system of claim 1, wherein the thermal fuse is a thermal fuse in the form of a

bimetallic circuit breaker (Streater, Fig. 9, 69), and the element with a threshold voltage and current characteristic is a varistor (Streater, Fig. 9, 71).

Allowable Subject Matter

10. Claims 6-7 are objected to as being dependent upon a rejected base claim 1, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Combined claim 6 would be allowable over the prior art of because the prior art does not teach or suggest a second resistor connected in parallel with thermal fuse and the element with a threshold voltage and current characteristics as set forth in the claimed invention.

12. Claim 7 is also indicated as allowable subject matter because the claim is dependent upon claim 6.

13. Claims 9-14 are objected to as being dependent upon a rejected base claim 8, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Combined claim 9 would be allowable over the prior art of because the prior art does not teach or suggest wherein the resistor is a first resistor and the circuit

Art Unit: 2836

comprises two legs connected in parallel, the first leg including the thermal protection device, the attenuating resistor and the element with a threshold voltage and current characteristic, and the second leg including a second resistor as set forth in the claimed invention.

14. Claims 10-14 are also indicated as allowable subject matter because the claims are dependent upon claim 9.

Response to Arguments

15. Applicant's arguments with respect to claims 1-5 and 8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sato et al. (US 4,358,813) in (Fig. 6), discloses a protective circuit comprising a thermal fuse (29), a resistor (30) and an element (28) with a threshold voltage and current characteristic connected in series at the control winding (NA) of a transformer. Peterson (US 5,748,429) in (Fig. 1), discloses a protective circuit comprising a thermal fuse (ZT2), a resistor (R1) and an element (D1) with a threshold voltage and current characteristics connected in series and a second thermal fuse (ZT1)

connected in parallel with the series connected thermal fuse (ZT2), resistor (R1) and the diode (D1).

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **TERRENCE R. WILLOUGHBY** whose telephone number is (571)272-2725. The examiner can normally be reached on 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/
Supervisory Patent Examiner, Art Unit 2836

TRW
4/24/08